AMENDMENTS TO THE CLAIMS

1-7. (Canceled)

8. (Currently amended) ~~The image processing apparatus according to claim 1~~ An image processing apparatus for processing a moving picture photographed by a predetermined photographing device on the basis of access units, comprising:

high rate conversion means for executing high rate conversion processing for converting a rate of the access units of the moving picture from a current first rate into a second rate, which is higher than the first rate;

detection means for detecting, for each of the plurality of access units forming the moving picture, at least one parameter value representing a characteristic of imaging blur occurring when the photographing device photographs the moving picture; and

correction means for correcting, before or after the high rate conversion processing executed by the high rate conversion means, each pixel value forming each subject access unit of the moving picture based on at least one value corresponding to the subject access unit of the parameter values detected by the detection means,

wherein, for each of the plurality of access units forming the moving picture, the correction means sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the correction means comprising:

filter characteristic conversion means for converting a characteristic of a low-pass filter indicating the imaging blur in accordance with the value corresponding to the focused pixel of said at least one parameter value detected by the detection means;

filtering means for applying the low-pass filter whose characteristic is converted by the filter characteristic conversion means to a predetermined block containing the focused pixel of the subject access unit to output a corrected pixel value of the focused pixel as a first value;

subtraction means for computing a difference between a pixel value of the focused pixel before being corrected and the first value output from the filtering means to output the resulting difference as a second value; and

addition means for adding the second value output from the subtraction means to the pixel value of the focused pixel before being corrected to output a resulting addition value as the pixel value of the focused pixel after being corrected.

9. (Currently amended) ~~The image processing apparatus according to claim 1~~ An image processing apparatus for processing a moving picture photographed by a predetermined photographing device on the basis of access units, comprising:

high rate conversion means for executing high rate conversion processing for converting a rate of the access units of the moving picture from a current first rate into a second rate, which is higher than the first rate;

detection means for detecting, for each of the plurality of access units forming the moving picture, at least one parameter value representing a characteristic of imaging blur occurring when the photographing device photographs the moving picture; and

correction means for correcting, before or after the high rate conversion processing executed by the high rate conversion means, each pixel value forming each subject access unit of the moving picture based on at least one value corresponding to the subject access unit of the parameter values detected by the detection means,

wherein, for each of the plurality of access units forming the moving picture, the correction means sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the correction means comprising:

first delay means for sequentially receiving a first image signal corresponding to a pixel group of the subject access unit in which pixels including the focused pixel are continuously located in a predetermined direction and for delaying the received first image signal by a first delay time corresponding to N pixels (N is an integer of one or greater) to output a resulting second image signal;

second delay means for sequentially receiving the second image signal output from the first delay means and for delaying the received second image signal by a second delay time corresponding to M pixels (M is an integer of one or greater including N) to output a resulting third image signal;

pixel value correcting means for correcting the pixel value of the focused pixel by using the first image signal input into the first delay means, the second image signal output from the first delay means and input into the second delay means, and the third image signal output from the second delay means; and

delay time changing means for changing the first delay time of the first delay means and the second delay time of the second delay means in accordance with a value corresponding to the focused pixel of the parameter values detected by the detection means.

10-21. (Canceled)

22. (Currently amended) ~~The information processing method according to claim 15~~ An image processing method for an image processing apparatus for processing a moving picture photographed by a predetermined photographing device on the basis of access units, the image processing method comprising:

a high rate conversion step of executing high rate conversion processing for converting a rate of the access units of the moving picture from a current first rate into a second rate, which is higher than the first rate;

a detection step of detecting, for each of the plurality of access units forming the moving picture, at least one parameter value representing a characteristic of imaging blur occurring when the photographing device photographs the moving picture; and

a correction step of correcting, before or after the high rate conversion processing executed in the high rate conversion step, each pixel value forming each subject access unit of the moving picture based on at least one value corresponding to the subject access unit of the parameter values detected by processing in the detection step,

wherein, for each of the plurality of access units forming the moving picture, the correction step sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the steps for the focused pixel comprising:

a filter characteristic conversion step of converting a characteristic of a low-pass filter indicating the imaging blur in accordance with the value corresponding to the focused pixel of said at least one parameter value detected by processing in the detection step;

a filtering step of applying the low-pass filter whose characteristic is converted by processing in the filter characteristic conversion step to a predetermined block containing the focused pixel of the subject access unit to output a corrected pixel value of the focused pixel as a first value;

a subtraction step of computing a difference between a pixel value of the focused pixel before being corrected and the first value output as a processing result of the filtering step to output the resulting difference as a second value; and

an addition step of adding the second value output as a result of a processing result of the subtraction step to the pixel value of the focused pixel before being corrected to output a resulting addition value as the pixel value of the focused pixel after being corrected.

23. (Currently amended) ~~The information processing apparatus according to claim 15~~ An image processing method for an image processing apparatus for processing a moving picture photographed by a predetermined photographing device on the basis of access units, the image processing method comprising:

a high rate conversion step of executing high rate conversion processing for converting a rate of the access units of the moving picture from a current first rate into a second rate, which is higher than the first rate;

a detection step of detecting, for each of the plurality of access units forming the moving picture, at least one parameter value representing a characteristic of imaging blur occurring when the photographing device photographs the moving picture; and

a correction step of correcting, before or after the high rate conversion processing executed in the high rate conversion step, each pixel value forming each subject access unit of the moving picture based on at least one value corresponding to the subject access unit of the parameter values detected by processing in the detection step,

wherein, for each of the plurality of access units forming the moving picture, the correction step sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the steps for the focused pixel comprising:

a first delay step of sequentially receiving a first image signal corresponding to a pixel group of the subject access unit in which pixels including the focused pixel are continuously located in a predetermined direction and for delaying the received first image signal by a first delay time corresponding to N pixels (N is an integer of one or greater) to output a resulting second image signal;

a second delay step of sequentially receiving the second image signal output as a processing result of the first delay step and for delaying the received second image signal by a second delay time corresponding to M pixels (M is an integer of one or greater including N) to output a resulting third image signal;

a pixel value correcting step of correcting the pixel value of the focused pixel by using the first image signal input as a subject to be processed in the first delay step, the second image signal output as the processing result of the first delay step and input as a subject to be processed in the second delay step, and the third image signal output as the processing result of the second delay step; and

a delay time changing step of changing the first delay time in the first delay step and the second delay time in the second delay step in accordance with a value corresponding to the focused pixel of the parameter values detected by processing in the detection step.

24-44. (Canceled)

45. (New) The image processing apparatus according to claim 8, wherein the high rate conversion means executes the high rate conversion processing by using the parameter values detected by the detection means.

46. (New) The image processing apparatus according to claim 8, wherein the first rate is the rate of the access units when the moving picture is photographed by the photographing device.

47. (New) The image processing apparatus according to claim 8, wherein, for each of the plurality of access units forming the moving picture, the detection means detects a motion vector of at least one pixel of the pixels forming each subject access unit as the parameter value.

48. (New) The image processing apparatus according to claim 47, wherein, as at least part of the high rate conversion processing, the high rate conversion means executes motion-compensation frame interpolation processing by using the motion vectors detected by the detection means.

49. (New) The image processing apparatus according to claim 8, wherein the detection means detects, as the parameter value, a shutter speed of the photographing device when each of the plurality of access units forming the moving picture is photographed by the photographing device.

50. (New) The image processing apparatus according to claim 8, wherein, for each of the plurality of access units forming the moving picture, the correction means sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the correction means comprising:

filter characteristic conversion means for converting a characteristic of a low-pass filter indicating the imaging blur in accordance with the value corresponding to the focused pixel of said at least one parameter value detected by the detection means;

inverse filter generating means for generating an inverse filter of the low-pass filter whose characteristic is converted by the filter characteristic conversion means; and

filtering means for correcting the pixel value of the focused pixel by applying the inverse filter generated by the inverse filter generating means to a predetermined block containing the focused pixel of the subject access unit.

51. (New) The image processing apparatus according to claim 8, wherein:

the first rate is 30 Hz and the second rate is 120 Hz; or

the first rate is 60 Hz and the second rate is 120 Hz; or

the first rate is 60 Hz and the second rate is 240 Hz; or

the first rate is 50 Hz and the second rate is 100 Hz; or

the first rate is 50 Hz and the second rate is 200 Hz.

52. (New) The image processing apparatus according to claim 9, wherein the high rate conversion means executes the high rate conversion processing by using the parameter values detected by the detection means.

53. (New) The image processing apparatus according to claim 9, wherein the first rate is the rate of the access units when the moving picture is photographed by the photographing device.

54. (New) The image processing apparatus according to claim 9, wherein, for each of the plurality of access units forming the moving picture, the detection means detects a motion vector of at least one pixel of the pixels forming each subject access unit as the parameter value.

55. (New) The image processing apparatus according to claim 54, wherein, as at least part of the high rate conversion processing, the high rate conversion means executes motion-compensation frame interpolation processing by using the motion vectors detected by the detection means.

56. (New) The image processing apparatus according to claim 9, wherein the detection means detects, as the parameter value, a shutter speed of the photographing device when each of the plurality of access units forming the moving picture is photographed by the photographing device.

57. (New) The image processing apparatus according to claim 9, wherein, for each of the plurality of access units forming the moving picture, the correction means sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the correction means comprising:

filter characteristic conversion means for converting a characteristic of a low-pass filter indicating the imaging blur in accordance with the value corresponding to the focused pixel of said at least one parameter value detected by the detection means;

inverse filter generating means for generating an inverse filter of the low-pass filter whose characteristic is converted by the filter characteristic conversion means; and

filtering means for correcting the pixel value of the focused pixel by applying the inverse filter generated by the inverse filter generating means to a predetermined block containing the focused pixel of the subject access unit.

58. (New) The image processing apparatus according to claim 9, wherein:

the first rate is 30 Hz and the second rate is 120 Hz; or

the first rate is 60 Hz and the second rate is 120 Hz; or

the first rate is 60 Hz and the second rate is 240 Hz; or

the first rate is 50 Hz and the second rate is 100 Hz; or

the first rate is 50 Hz and the second rate is 200 Hz.

59. (New) The image processing method according to claim 22, wherein the high rate conversion step is the step of executing the high rate conversion processing by using the parameter values detected by processing in the detection step.

60. (New) The image processing method according to claim 22, wherein the first rate is the rate of the access units when the moving picture is photographed by the photographing device.

61. (New) The image processing method according to claim 22, wherein, for each of the plurality of access units forming the moving picture, the detection step includes processing for detecting a motion vector of at least one pixel of the pixels forming each subject access unit as the parameter value.

62. (New) The image processing method according to claim 61, wherein the high rate conversion step is the step of executing motion-compensation frame interpolation processing as at least part of the high rate conversion processing by using the motion vectors detected by processing in the detection step.

63. (New) The image processing method according to claim 22, wherein the detection step includes processing for detecting, as the parameter value, a shutter speed of the photographing device when each of the plurality of access units forming the moving picture is photographed by the photographing device.

64. (New) The information processing method according to claim 22, wherein, for each of the plurality of access units forming the moving picture, the correction step sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the steps for the focused pixel comprising:

a filter characteristic conversion step of converting a characteristic of a low-pass filter indicating the imaging blur in accordance with the value corresponding to the focused pixel of said at least one parameter value detected by processing in the detection step;

an inverse filter generating step of generating an inverse filter of the low-pass filter whose characteristic is converted by processing in the filter characteristic conversion step; and

a filtering step of correcting the pixel value of the focused pixel by applying the inverse filter generated by processing in the inverse filter generating step to a predetermined block containing the focused pixel of the subject access unit.

65. (New) The information processing method according to claim 22, wherein, for each of the plurality of access units forming the moving picture, the correction step sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the steps for the focused pixel comprising:

a filter characteristic conversion step of converting a characteristic of a low-pass filter indicating the imaging blur in accordance with the value corresponding to the focused pixel of said at least one parameter value detected by processing in the detection step;

a filtering step of applying the low-pass filter whose characteristic is converted by processing in the filter characteristic conversion step to a predetermined block containing the focused pixel of the subject access unit to output a corrected pixel value of the focused pixel as a first value;

a subtraction step of computing a difference between a pixel value of the focused pixel before being corrected and the first value output as a processing result of the filtering step to output the resulting difference as a second value; and

an addition step of adding the second value output as a result of a processing result of the subtraction step to the pixel value of the focused pixel before being corrected to output a resulting addition value as the pixel value of the focused pixel after being corrected.

66. (New) The information processing apparatus according to claim 22, wherein, for each of the plurality of access units forming the moving picture, the correction step sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the steps for the focused pixel comprising:

a first delay step of sequentially receiving a first image signal corresponding to a pixel group of the subject access unit in which pixels including the focused pixel are continuously located in a predetermined direction and for delaying the received first image signal by a first delay time corresponding to N pixels (N is an integer of one or greater) to output a resulting second image signal;

a second delay step of sequentially receiving the second image signal output as a processing result of the first delay step and for delaying the received second image signal by a second delay time corresponding to M pixels (M is an integer of one or greater including N) to output a resulting third image signal;

a pixel value correcting step of correcting the pixel value of the focused pixel by using the first image signal input as a subject to be processed in the first delay step, the second image signal output as the processing result of the first delay step and input as a subject to be processed in the second delay step, and the third image signal output as the processing result of the second delay step; and

a delay time changing step of changing the first delay time in the first delay step and the second delay time in the second delay step in accordance with a value corresponding to the focused pixel of the parameter values detected by processing in the detection step.

67. (New) The image processing method according to claim 22, wherein:

the first rate is 30 Hz and the second rate is 120 Hz; or

the first rate is 60 Hz and the second rate is 120 Hz; or

the first rate is 60 Hz and the second rate is 240 Hz; or

the first rate is 50 Hz and the second rate is 100 Hz; or

the first rate is 50 Hz and the second rate is 200 Hz.

68. (New) The image processing method according to claim 23, wherein the high rate conversion step is the step of executing the high rate conversion processing by using the parameter values detected by processing in the detection step.

69. (New) The image processing method according to claim 23, wherein the first rate is the rate of the access units when the moving picture is photographed by the photographing device.

70. (New) The image processing method according to claim 23, wherein, for each of the plurality of access units forming the moving picture, the detection step includes processing for detecting a motion vector of at least one pixel of the pixels forming each subject access unit as the parameter value.

71. (New) The image processing method according to claim 70, wherein the high rate conversion step is the step of executing motion-compensation frame interpolation processing as at least part of the high rate conversion processing by using the motion vectors detected by processing in the detection step.

72. (New) The image processing method according to claim 23, wherein the detection step includes processing for detecting, as the parameter value, a shutter speed of the photographing device when each of the plurality of access units forming the moving picture is photographed by the photographing device.

73. (New) The information processing method according to claim 23, wherein, for each of the plurality of access units forming the moving picture, the correction step sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the steps for the focused pixel comprising:

a filter characteristic conversion step of converting a characteristic of a low-pass filter indicating the imaging blur in accordance with the value corresponding to the focused pixel of said at least one parameter value detected by processing in the detection step;

an inverse filter generating step of generating an inverse filter of the low-pass filter whose characteristic is converted by processing in the filter characteristic conversion step; and

a filtering step of correcting the pixel value of the focused pixel by applying the inverse filter generated by processing in the inverse filter generating step to a predetermined block containing the focused pixel of the subject access unit.

74. (New) The information processing method according to claim 23, wherein, for each of the plurality of access units forming the moving picture, the correction step sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the steps for the focused pixel comprising:

a filter characteristic conversion step of converting a characteristic of a low-pass filter indicating the imaging blur in accordance with the value corresponding to the focused pixel of said at least one parameter value detected by processing in the detection step;

a filtering step of applying the low-pass filter whose characteristic is converted by processing in the filter characteristic conversion step to a predetermined block containing the focused pixel of the subject access unit to output a corrected pixel value of the focused pixel as a first value;

a subtraction step of computing a difference between a pixel value of the focused pixel before being corrected and the first value output as a processing result of the filtering step to output the resulting difference as a second value; and

an addition step of adding the second value output as a result of a processing result of the subtraction step to the pixel value of the focused pixel before being corrected to output a resulting addition value as the pixel value of the focused pixel after being corrected.

75. (New) The information processing apparatus according to claim 23, wherein, for each of the plurality of access units forming the moving picture, the correction step sets a subject pixel of the pixels forming the subject access unit as a focused pixel, the steps for the focused pixel comprising:

a first delay step of sequentially receiving a first image signal corresponding to a pixel group of the subject access unit in which pixels including the focused pixel are continuously located

in a predetermined direction and for delaying the received first image signal by a first delay time corresponding to N pixels (N is an integer of one or greater) to output a resulting second image signal;

a second delay step of sequentially receiving the second image signal output as a processing result of the first delay step and for delaying the received second image signal by a second delay time corresponding to M pixels (M is an integer of one or greater including N) to output a resulting third image signal;

a pixel value correcting step of correcting the pixel value of the focused pixel by using the first image signal input as a subject to be processed in the first delay step, the second image signal output as the processing result of the first delay step and input as a subject to be processed in the second delay step, and the third image signal output as the processing result of the second delay step; and

a delay time changing step of changing the first delay time in the first delay step and the second delay time in the second delay step in accordance with a value corresponding to the focused pixel of the parameter values detected by processing in the detection step.

76. (New) The image processing method according to claim 23, wherein:

the first rate is 30 Hz and the second rate is 120 Hz; or

the first rate is 60 Hz and the second rate is 120 Hz; or

the first rate is 60 Hz and the second rate is 240 Hz; or

the first rate is 50 Hz and the second rate is 100 Hz; or

the first rate is 50 Hz and the second rate is 200 Hz.